NEM Reform Program Industry Readiness Approach

SCADA Lite

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AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

Document contents and version control

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#	Version	Date	Comments
1	Final version 1.0	19 July 2024	
2	Final version 1.1	26 July 2024	Minor update to title page
3			

Purpose of Initiative Readiness Approach

- To define the criteria against which go-live decisions will be made.

- Aligns to and supports the implementation approach defined for SCADA Lite:
  - AEMO Proof-of-Concept (POC) to confirm technology requirements for cloud-hosted virtualised end-point solution option followed by
  - Pilot Test with a selected industry participant to prove the service option and develop 'how-to' guideline to assist eligible participants with their implementation activities once SCADA Lite service option is available in production
  - 29 Jan 2025 Go-live

- The Readiness Approach, once endorsed, will form the basis of participant readiness activities in line with the principles in the NEM 2025 Industry and Business Readiness Strategy.

Participant Impact Assessment

The SCADA Lite initiative introduces a new capability and service that will enable NEM non-NSP participants to establish a bi-directional connection to exchange telemetry and control information with AEMO using the DNP3.0 protocol to establish this connection. Note: protocol ICCP is currently supported.

The solution will support both cloud-hosted (major Australian cloud providers) and physical infrastructure based non-NSP Participant Intervening Facilities (endpoints).

SCADA Lite will be available to eligible participants for:

- DRSPs seeking to register a WDR unit with >5MW of WDR from a single site/aggregation who do not provide telemetry via an NSP. Refer WDR Guidelines
- IRPs and Generators seeking a transitional connection where their NSP does not support the service.

SCADA Lite: High-level impacts

The information presented here is general in nature. AEMO encourages industry participants to undertake their own due diligence to assess energy market reform impacts on their respective organisations.

AFFECTED TECHNOLOGY & PROCESSES	INDICATIVE PARTICIPANT CHANGE IMPACTS	AFFECTED PARTICIPANTS				
		IRP	GEN	DRSP	TNSP	DNSP
REGISTRATION	• **Required:** DRSPs seeking to register >5MW of WDR from a single site/aggregation who do not provide telemetry via an NSP will require a SCADA lite connection • **Optional.** IRPs or Generators seeking a transitional SCADA Lite connection where the NSP does not support the service. **MEDIUM** • Provide required data and undergo required certification • Direct annual fees for a SCADA Lite connection	O	O	✓		
DISPATCH	**MEDIUM**: • **Optional** - Operational systems could be upgraded to receive/respond to instruction signals from a SCADA Lite feed.	O	O	O		
TECHNOLOGY	**MEDIUM** for non-NSP participants: • Potential for new technology and hardware that will be required to enable the bidirectional communication link with AEMO to provide telemetry and optionally receive instruction signals.	O	O	✓		

* Refer to SCADA Lite Stakeholder Workshop Presentation – 23 August 2023 for technical overview

DRSP	Demand Response Service Provider
GEN	Scheduled Generators
IRP	Integrated Resource Providers

TNSP	Transmission network service provider
DNSP	Distribution network service provider

Context: NEM Reform program industry strategy

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NEM REFORM READINESS STRATEGY (ALL INITIATIVES)

READINESS APPROACH FRAMEWORK

Initiative Readiness Criteria	Initiative Testing & Market Trial	Participant Development Support	Transition & Go-Live
AEMO readiness criteria	Industry testing approach	Technical specifications & procedures	Transition plan/s
Individual participant readiness approach	Test plans and coordination	Environment availability	Deployment, go-live plan/s
		IT development support	Registration / accreditation plan

Readiness Criteria: Criteria against which the decision to implement the initiative will be made. Includes impact on ongoing NEM operation

IndustryTest/Market Trial/Pilot: Agreed approach to support Participant testing of market processes impacted by initiative

Transition & Go-Live: Approach and management of transitional activities and Go-Live timings, dependencies and communication approaches

Participant Development Support: Approaches to provide impacted participants the information required for successful development and implantation of their required changes

Progressive management of agreed delivery milestones and checkpoints for evaluation against agreed criteria

Identification and management of Implementation risks and Agreed contingencies for the initiative

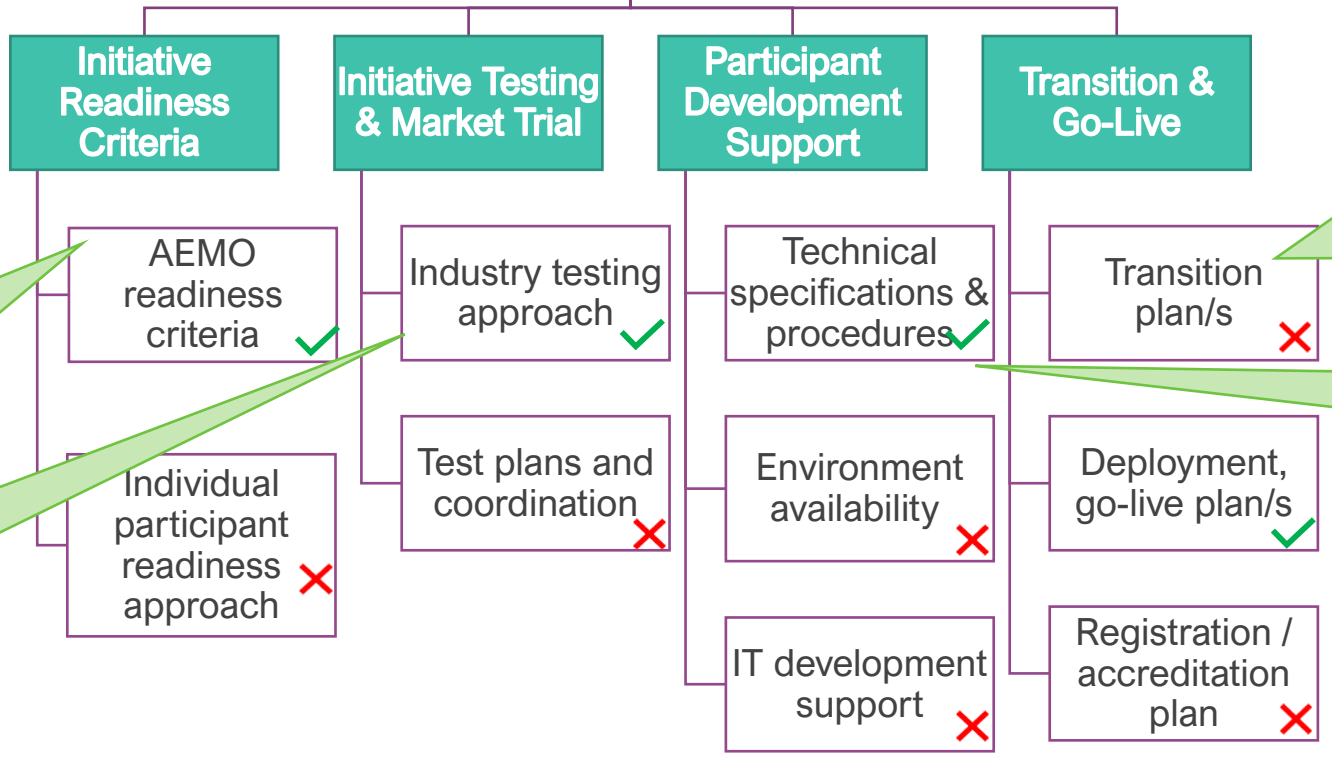**RISK & CONTINGENCY MANAGEMENT**

INITIATIVE READINESS REPORTING & GO-LIVE CRITERIA MANAGEMENT

Context: NEM Reform program industry strategy

NEM REFORM READINESS STRATEGY (ALL INITIATIVES)

READINESS APPROACH for SCADA Lite

SCADA Lite readiness approach adopts the standard NEM Reform program framework

Initiative Readiness Criteria	Initiative Testing & Market Trial	Participant Development Support	Transition & Go-Live

AEMO solution and business must be ready.

Pilot Testing with Individual Participant

Initiative Readiness Criteria	Initiative Testing & Market Trial	Participant Development Support	Transition & Go-Live
AEMO readiness criteria ✓	Industry testing approach ✓	Technical specifications & procedures ✓	Transition plan/s ✗
Individual participant readiness approach ✗	Test plans and coordination ✗	Environment availability ✗	Deployment, go-live plan/s ✓
		IT development support ✗	Registration / accreditation plan ✗

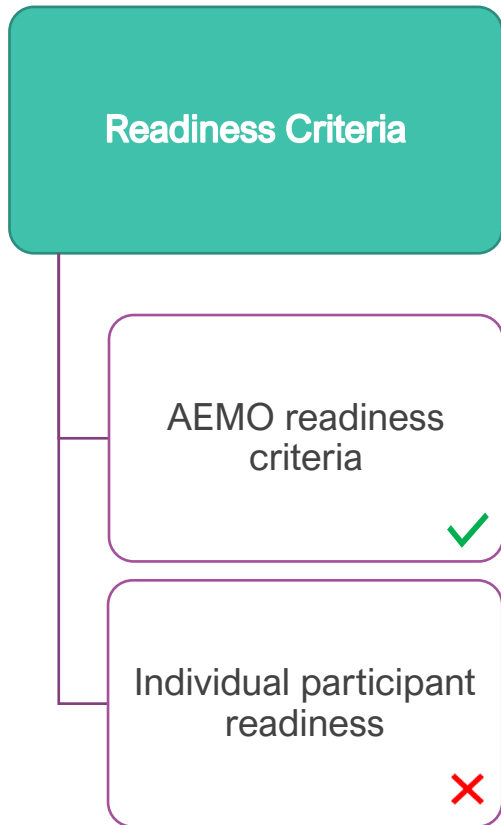Eligible participant engagement once service is live

Technical "How-To" Guideline

Progress against milestones & checkpoints

RISK & CONTINGENCY MANAGEMENT ✓

INITIATIVE READINESS REPORTING & GO-LIVE CRITERIA MANAGEMENT ✓

SCADA Lite readiness approach: Initiative readiness criteria

Readiness Criteria

- AEMO readiness criteria ✔
- Individual participant readiness ✘

INITIATIVE	**SCADA Lite Operations from 29 Jan 2025** • SCADA Lite go-live criteria will reflect Technical Readiness for go-live and AEMO preparedness to support the new service. • Participant readiness is not a criteria for go-live • Go-live criteria management will involve updates on progress of pilot to industry via PCF and Implementation Forums
AEMO READINESS	**AEMO technology and systems tested in-line with requirement to:** • Provide bi-directional telemetry and control signals between AEMO and Non-NSPs using DNP3.0 protocol for both physical and virtualised endpoint.
	AEMO business operations and processes in place to support: • Registration eligibility assessment • Invoicing of one-off and annual payment • New cloud-type network connectivity configuration
	AEMO IT Operations ready to: • Provide technical support for new service and connection type.
PARTICIPANT READINESS	**Participant readiness activity is not a dependency for go-live.** • AEMO does not propose to monitor participant readiness.
CONTINGENCY	Contingency approaches to be developed during implementation

BAU / Registration process will manage applications and eligibility for service
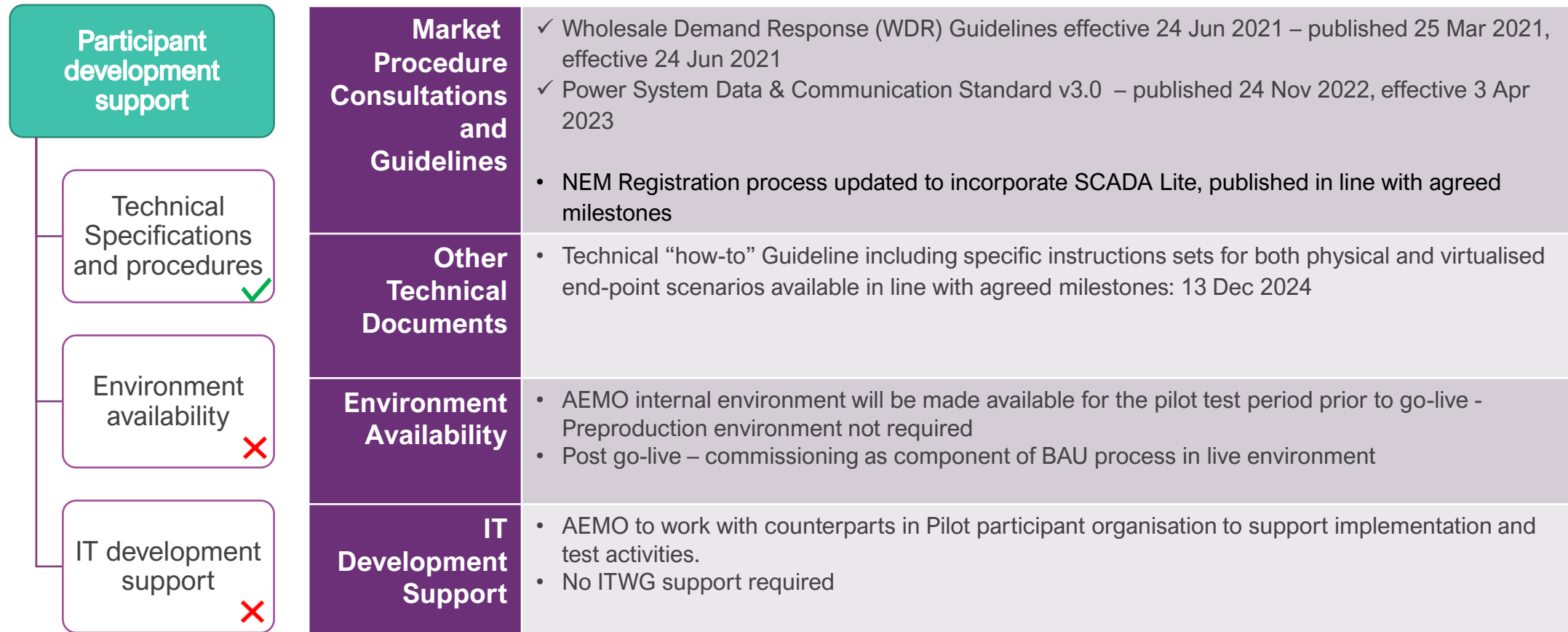
SCADA Lite readiness approach: Pilot Test

```
Initiative Testing and market
trial
    ├── Industry testing
    │   approach          ✔
    │
    └── Test/trial plans and
        coordination      ✖
```
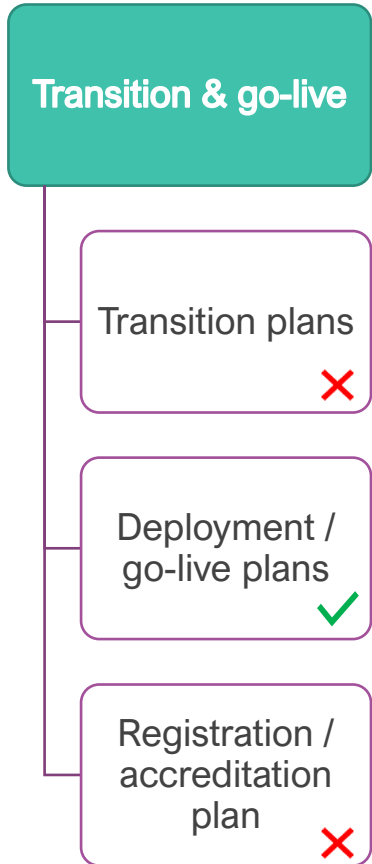
	PILOT Testing prior to Production Release
Pilot Test Period	• 14 Nov to 4 Dec 2024 • Duration 1 month
Industry Test Approach	AEMO Industry test approach to partner with a selected participant to run a Pilot Test - post successful pilot, service will be available for commissioning: • To prove successful exchange of telemetry data and control signals via cloud-hosted network connection • Specialist AEMO resources will interact with Pilot participant equivalent counterparts to facilitate implementation and testing • Approach and outcomes will be shared via Implementation forum • AEMO to make available to all eligible market participants after go-live
Test Plan	• Will be developed for pilot testing with individual participant

SCADA Lite readiness approach: Participant development support

Participant development support		
Technical Specifications and procedures ✓	**Market Procedure Consultations and Guidelines**	✓ Wholesale Demand Response (WDR) Guidelines effective 24 Jun 2021 – published 25 Mar 2021, effective 24 Jun 2021 ✓ Power System Data & Communication Standard v3.0 – published 24 Nov 2022, effective 3 Apr 2023 • NEM Registration process updated to incorporate SCADA Lite, published in line with agreed milestones
	Other Technical Documents	• Technical "how-to" Guideline including specific instructions sets for both physical and virtualised end-point scenarios available in line with agreed milestones: 13 Dec 2024
Environment availability ✗	**Environment Availability**	• AEMO internal environment will be made available for the pilot test period prior to go-live - Preproduction environment not required • Post go-live – commissioning as component of BAU process in live environment
IT development support ✗	**IT Development Support**	• AEMO to work with counterparts in Pilot participant organisation to support implementation and test activities. • No ITWG support required

FPP readiness approach: Transition and go-live

Transition & go-live

- Transition plans ❌
- Deployment / go-live plans ✔️
- Registration / accreditation plan ❌

Transition Plans	• No obligated transitional requirements. • Establishment of SCADA Lite connection will become part of business-as-usual process.
Deployment / Go-live Plan	Deployment / go-live plan for production release covering key cutover timeframes and communications will be needed for AEMO system deployment. Note, no real 'hypercare' as support will be provided via BAU process. Target publish date: 13 Dec 2024
Registration	• Eligible participants can register for the new service, for consideration by AEMO, after go-live as BAU process. • Registration process will capture the additional data required to establish and commission the new connection.

SCADA Lite readiness approach: Readiness reporting etc

SCADA LITE READINESS REPORTING & GO-LIVE CRITERIA MANAGEMENT

Market readiness activities are intended to:
1) address readiness challenges and support the prudent implementation of NEM changes
2) safeguard the integrity of NEM processes across the various IT system go-lives or market starts, given the market's size, value, complexity and need for continuous operation.

Readiness reporting is used when there is a need for AEMO and industry to have an accurate assessment of industry's readiness for:
• system deployments,
• transitional activities, and/or
• rule commencements.

Propose that formalised Participant Readiness Reporting is not required.

Rationale:

• SCADA Lite service available to eligible participants post go-live

AEMO will report to industry:

• Progress against agreed L1/L2 milestones

• Checkpoints on go-live criteria:
  • prior to Pilot Test period – 29 Oct 2024
  • lead-up to implementation – 13 Dec 2024 1 month before go-live